



THE SCIENCE OF READYSM

INTERCONTINENTAL TERMINALS COMPANY - TANK FIRE

Preliminary Data Summary

Deer Park, TX

March 21, 2019

Project #111356

1.0 Introduction

On March 17, 2019 Intercontinental Terminals Company (ITC) requested that CTEH® conduct air monitoring in the surrounding community after a tank fire at the Deer Park, TX terminal. CTEH® arrived on-site on March 17, 2019 and began air monitoring and air sampling operations. This report summarizes air monitoring data collected from March 17, 2019 17:02 CDT to March 21, 2019 12:30 CDT.

2.0 Air Monitoring and Sampling Methods

CTEH® developed and implemented an Air Sampling and Analysis Plan (SAP) to document and quantify the release of fugitive emissions, if any, from the fire at ground level. All instrumentation was calibrated at least once per day or per manufacturer's recommendations. Target analytes were measured as listed in **Table 1**, below. Hand-held air monitoring consisted of roaming air monitoring in the surrounding community. All hand-held air monitoring was conducted in the breathing zone.

CTEH® has also collected analytical air samples for a suite of volatile organic compounds (VOCs) at 4 locations in the surrounding area. These samples will be sent to a 3rd-party laboratory for rush chemical analysis.

3.0 Air Monitoring Results

Attachment A depicts the site location and hand-held monitoring locations for this reporting period.

Table 1 summarizes the results for community hand-held air monitoring readings.

Table 1: Community Hand-Held Real-Time Air Monitoring Results

Analyte	Instrument	No. Readings	No. Detections	Range ¹	Action Level Value*	Basis for Action Level
Benzene	Gastec #121L	9	0	< 0.05 ppm	2.25ppm	¼ EPA 8hr AEGL-1
	UltraRAE	736	51	0.1 - 10.55 ppm	2.25ppm	¼ EPA 8hr AEGL-1
Carbon Monoxide	MultiRAE	176	0	< 1 ppm	25ppm	½ TEEL-O
Formaldehyde	Gastec #91L	1	0	< 0.05 ppm	0.45ppm	½ EPA 8hr AEGL-1
Hexane	Gastec #102L	17	0	< 1 ppm	25ppm	½ DOE SCAPA TEEL-O Value
Hydrogen Sulfide	Gastec #4LL	29	0	< 0.1 ppm	0.25ppm	½ PAC-1 Value
	MultiRAE	346	0	< 0.1 ppm	0.25ppm	½ PAC-1 Value
LEL	MultiRAE	627	0	< 1 %	1% (2.5% corrected value)	Elevated LEL

Analyte	Instrument	No. Readings	No. Detections	Range ¹	Action Level Value*	Basis for Action Level
Naphtha	Gastec #106	92	0	< 1 mg/L	50ppm	½ DOE SCAPA TEEL-0 Value
Naphthalene	Gastec #60	44	0	< 0.1 ppm	5ppm	½ ACGIH TLV-TWA
Nitrogen Dioxide	Gastec #9L	42	0	< 0.1 ppm	0.25ppm	½ EPA 8hr AEGL-1
	MultiRAE	135	0	< 0.1 ppm	0.25ppm	½ EPA 8hr AEGL-1
Oxygen	MultiRAE	344	344	20.8 - 21.5 %	19.5%	
PM2.5	AM510	381	381	0.001 - 0.472 mg/m ³	0.138 mg/m ³	Wildfire Smoke Guidelines for 1 hr. avg. upper-bound breakpoint for unhealthy or sensitive groups AQI
	Dustrak DRK	5	5	0.019 - 0.029 mg/m ³	0.138 mg/m ³	
Sulfur Dioxide	Gastec	2	0	< 0.1 ppm	0.1ppm	½ EPA 8hr AEGL-1
	MultiRAE	139	0	< 0.1 ppm	0.1ppm	½ EPA 8hr AEGL-1
Toluene	Gastec #122	16	0	< 10 ppm	33.5ppm	½ EPA 8hr AEGL-1
	Gastec #122	112	0	< 1 ppm	33.5ppm	½ EPA 8hr AEGL-1
	Gastec #122L	2	0	< 0.5 ppm	33.5ppm	½ EPA 8hr AEGL-1
VOCs	MultiRAE	909	52	0.1 - 25.9 ppm	0.5ppm	Approximate background level
Xylene	Gastec #123L	142	0	< 1 ppm	65ppm	½ EPA 8hr AEGL-1

¹Maximum detections preceded by the "<" symbol are considered non-detections below the limit of detection (LoD) value to the right.

²An additional 16 xylene readings were taken. Based on a variation in monitoring procedure by an individual field monitor, these 16 readings would not provide detections below 100ppm.

All 51 benzene detections occurred between 04:01 and 08:10 on March 21, 2019. The average concentration of detections was 2.71ppm, with a peak detection of 10.55ppm near the intersection of Highway 225 and Independence Parkway. At the location of the 10.55ppm detection, CTEH subsequently detected a reading of 1.3ppm at this location two minutes later. The 51 benzene detections were in an area bounded by Highway 225, E. Pasadena Blvd, East Blvd, and Beltway 8. Outside this area, CTEH has not detected comparable levels of benzene in the community monitoring program.

CTEH continued monitoring in the affected area in Deer Park between 08:10 and 12:30 CDT. During this time, CTEH collected 49 additional readings with no detections of benzene. Air monitoring within the community is ongoing.

4.0 Weather Conditions

Attachment B contains a wind rose depicting wind speed and direction for this reporting period. Data was acquired from the Texas Commission on Environmental Quality (TCEQ) Lynchburg Ferry meteorological station located on Tidal Road approximately 2 mi NNE of the fire.

Attachment A

CTEH Monitoring Locations



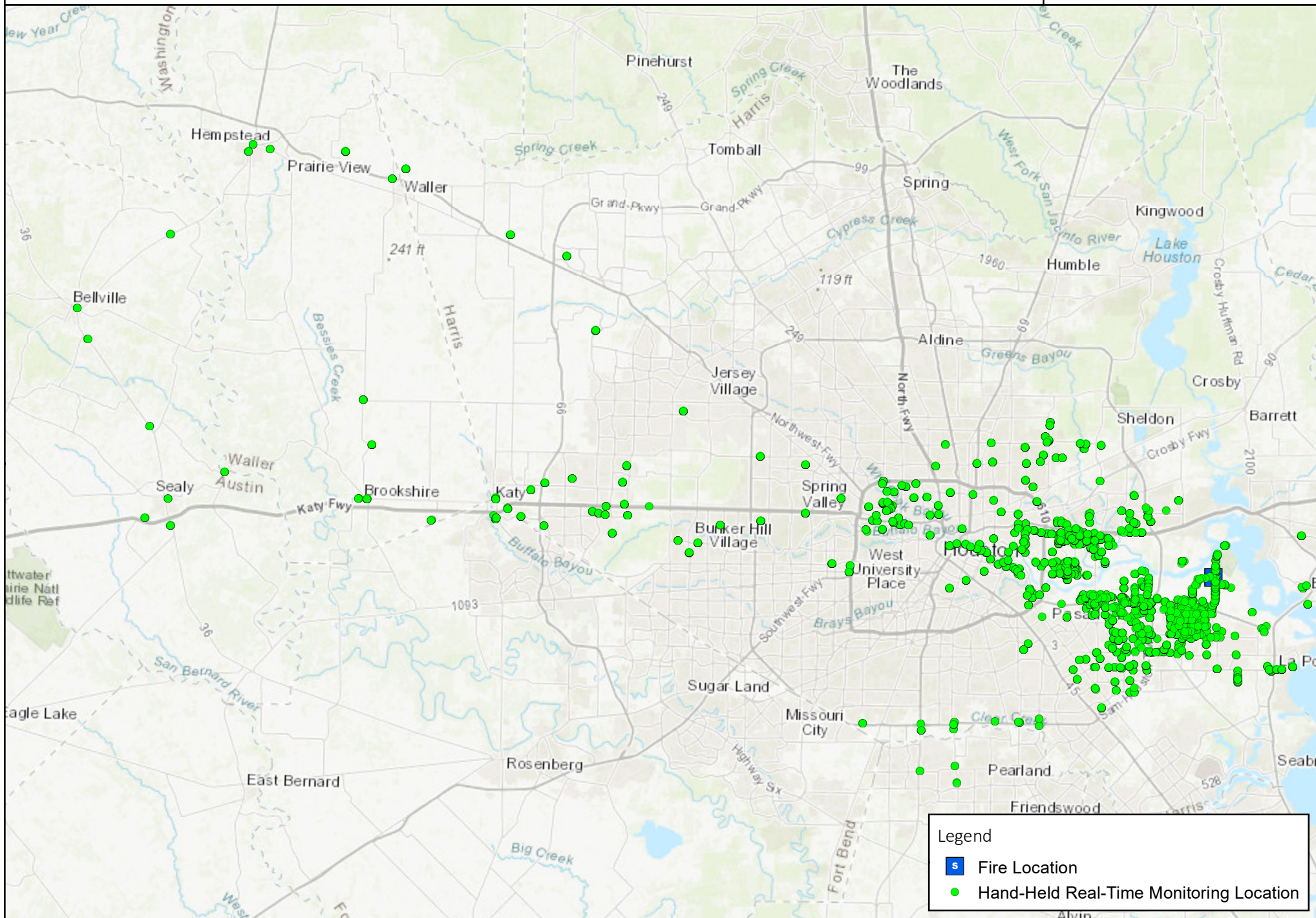
Hand-Held Real-Time Monitoring Locations

ITC Tank Fire Deerpark, TX


0 5 10
Miles




Project:111356
Client: ITC
City: Deerpark, TX
County: Harris



Legend

 Fire Location

 Hand-Held Real-Time Monitoring Location

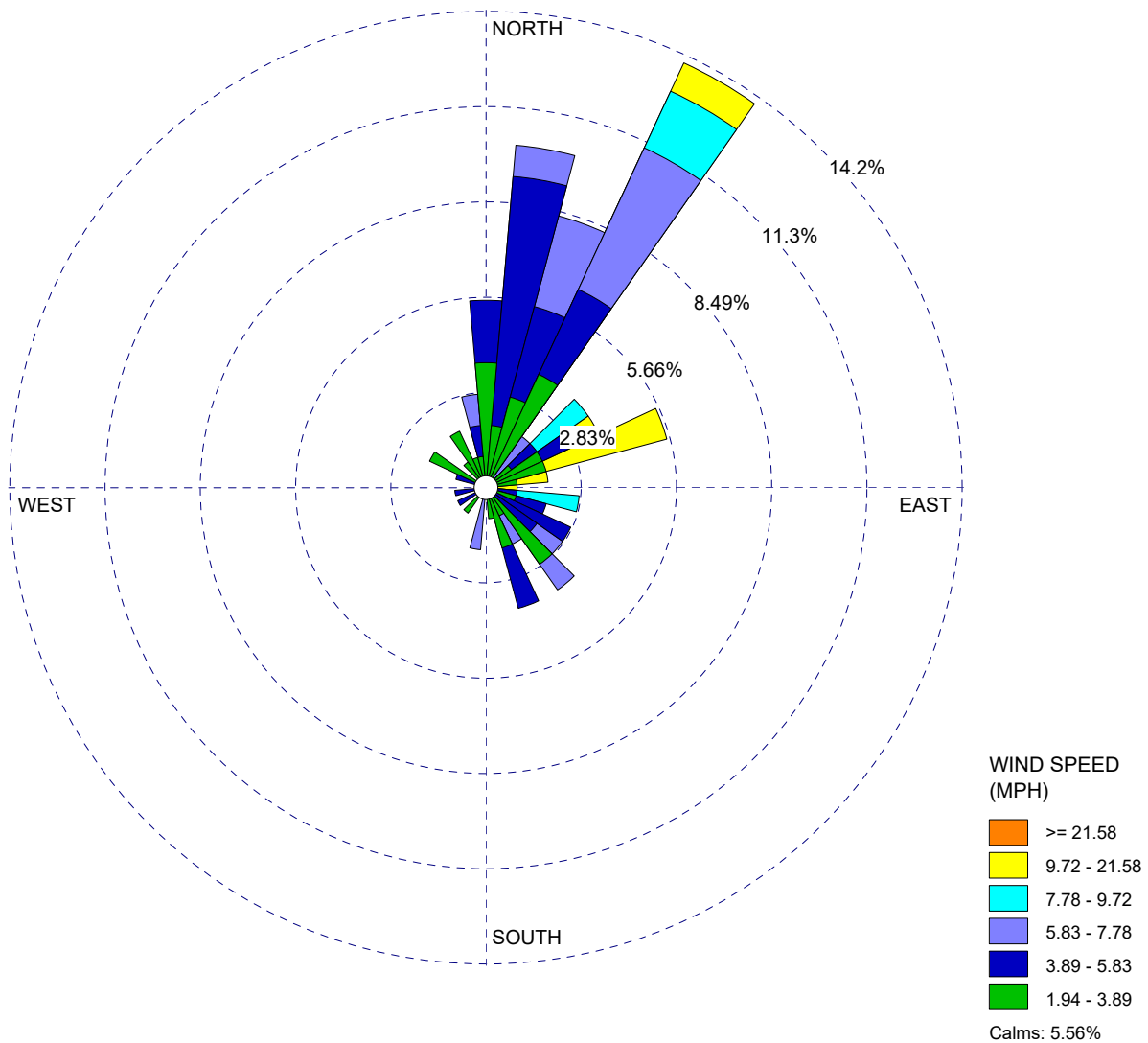
Attachment B

Meteorological Conditions

WIND ROSE PLOT:

Station #Lynchburg Ferry

DISPLAY:

Wind Speed
Direction (blowing from)

COMMENTS:

DATA PERIOD:

Start Date: 3/17/2019 - 00:00
End Date: 3/21/2019 - 11:00

COMPANY NAME:

MODELER:

CALM WINDS:

5.56%

TOTAL COUNT:

103 hrs.

AVG. WIND SPEED:

4.54 MPH

DATE:

3/21/2019

PROJECT NO.:

111356